

# INTERNATIONAL SEARCH REPORT

International Application No

PCT/CA 03/01760

## A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 B01J20/04 B01J20/34 B01D53/62

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 B01J B01D

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data, PAJ

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	WO 03/080223 A (CONSEJO SUPERIOR DE INVESTIGACIONES CIENTIFICAS) 2 October 2003 (2003-10-02) the whole document	10-20
A	US 2002/037246 A1 (C. BEAL) 28 March 2002 (2002-03-28) page 2, paragraphs 18,19,23	10-20
A	US 2003/007918 A1 (L.S.FAN) 9 January 2003 (2003-01-09) page 2, paragraph 25 - page 3, paragraph 31; figure 2	10-20
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Further documents are listed in the continuation of box C.



Patent family members are listed in annex.

\* Special categories of cited documents :

\*A\* document defining the general state of the art which is not considered to be of particular relevance

\*E\* earlier document but published on or after the international filing date

\*L\* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

\*O\* document referring to an oral disclosure, use, exhibition or other means

\*P\* document published prior to the international filing date but later than the priority date claimed

\*T\* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

\*X\* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

\*Y\* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

\*&\* document member of the same patent family

Date of the actual completion of the international search

9 August 2004

Date of mailing of the international search report

30/08/2004

Name and mailing address of the ISA

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## C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	<p>AGNIHOTRI R ET AL: "SORBENT/ASH REACTIVATION FOR ENHANCED SO<sub>2</sub> CAPTURE USING A NOVEL CARBONATION TECHNIQUE" INDUSTRIAL &amp; ENGINEERING CHEMISTRY RESEARCH, AMERICAN CHEMICAL SOCIETY. WASHINGTON, US, vol. 38, no. 3, 1999, pages 812-819, XP002933502 ISSN: 0888-5885 page 812, left-hand column, paragraph 1 page 813, left-hand column, last paragraph - page 815, left-hand column, last paragraph page 816, right-hand column, last paragraph</p>	10-20
A	<p>WO 99/56868 A (THE OHIO STATE UNIVERSITY) 11 November 1999 (1999-11-11) page 15; claim 1</p>	10-20
A	<p>WO 97/06889 A (ABB RESEARCH LTD) 27 February 1997 (1997-02-27) claim 1</p>	10,17, 18,20
A	<p>GB 1 229 415 A (CONSOLIDATION COAL COMPANY) 21 April 1971 (1971-04-21) page 5, line 15 - line 28; claim 1</p>	10,13, 14,16-18
A	<p>US 4 900 533 A (P.J. MALDEN) 13 February 1990 (1990-02-13) cited in the application claim 1</p>	
A	<p>US 5 792 440 A (F.R. HUEGE) 11 August 1998 (1998-08-11) cited in the application</p>	

## FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

Continuation of Box I.2

Claims Nos.: 1-9

In view of the multiple independent method claims and also the wording used in claim 1 which is not supported by the description and , which render it difficult, if not impossible, to determine the matter for which protection is sought, the present application fails to comply with the clarity and conciseness requirements of Article 6 PCT (see also Rule 6.1(a) PCT) with respect to claim 1 and its dependent claims 2 to 9 to such an extent that a meaningful search is impossible for claims 1 to 9. Consequently, the search has been carried out for those parts of the application which do appear to be clear, and supported by the description , namely the method of claims 10 to 20.

The applicant's attention is drawn to the fact that claims relating to inventions in respect of which no international search report has been established need not be the subject of an international preliminary examination (Rule 66.1(e) PCT). The applicant is advised that the EPO policy when acting as an International Preliminary Examining Authority is normally not to carry out a preliminary examination on matter which has not been searched. This is the case irrespective of whether or not the claims are amended following receipt of the search report or during any Chapter II procedure. If the application proceeds into the regional phase before the EPO, the applicant is reminded that a search may be carried out during examination before the EPO (see EPO Guideline C-VI, 8.5), should the problems which led to the Article 17(2) declaration be overcome.

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International application No.  
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## Box I Observations where certain claims were found unsearchable (Continuation of item 1 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:  
because they relate to subject matter not required to be searched by this Authority, namely:
2. ☒ Claims Nos.: 1-9  
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:  
see FURTHER INFORMATION sheet PCT/ISA/210
3. ☐ Claims Nos.:  
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

## Box II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

1. ☐ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☐ No protest accompanied the payment of additional search fees.

# INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

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Patent document cited in search report		Publication date	Patent family member(s)	Publication date
WO 03080223	A	02-10-2003	ES 2192994 A1 WO 03080223 A1	16-10-2003 02-10-2003
US 2002037246	A1	28-03-2002	FR 2814533 A1 EP 1193444 A1 PL 349870 A1	29-03-2002 03-04-2002 08-04-2002
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WO 9706889	A	27-02-1997	CA 2230019 A1 CN 1199353 A , B CZ 9800510 A3 FI 980394 A WO 9706889 A1 IN 188644 A1 PL 325057 A1 SE 9800396 A TW 397706 B	27-02-1997 18-11-1998 15-07-1998 20-04-1998 27-02-1997 26-10-2002 06-07-1998 11-02-1998 11-07-2000
GB 1229415	A	21-04-1971	NONE	
US 4900533	A	13-02-1990	NONE	
US 5792440	A	11-08-1998	AT 215514 T CA 2232302 A1 DE 69620423 D1 DE 69620423 T2 DK 851839 T3 EP 0851839 A1 ES 2175072 T3 PT 851839 T WO 9711030 A1	15-04-2002 27-03-1997 08-05-2002 07-11-2002 29-07-2002 08-07-1998 16-11-2002 30-09-2002 27-03-1997